

A REVISION OF THE NEOTROPICAL CLICK BEETLE GENUS *SEMIOTINUS*
PJATAKOWA (COLEOPTERA: ELATERIDAE)

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Abstract.—Fifteen species, formerly placed in *Semiotus* Eschscholtz are transferred into the genus *Semiotinus*, which formerly included only *S. banghaasi* Pjatakowa. The 17 known species of the Neotropical genus *Semiotinus* Pjatakowa are described and keyed. *Semiotinus maculatus*, n. sp., is described. *Semiotus stramineus* Candèze is a **new synonym** of *S. brevicollis* Candèze, **n. comb.**; *S. dypticus* Candèze and *S. subvirescens* Schwarz are **new synonyms** of *S. quadricollis* Kirsch, **n. comb.**; *S. juvenilis* Candèze and *S. borrei* Candèze are **new synonyms** of *S. fusiformis* Kirsch, **n. comb.**; *S. elegantulus* Candèze is a **new synonym** of *S. trilineatus* Candèze, **n. comb.**; *S. pulchellus* Candèze is a **new synonym** of *S. quadrivittis* Steinheil, **n. comb.**; and *S. staudingeri* Pjatakowa is a **new synonym** of *S. aeneovittatus* Kirsch, **n. comb.** The three genera of the subfamily Semiotinae are also keyed.

Key Words: Coleoptera, click beetle, Elateridae, *Semiotus*, *Semiotinus*

The Neotropical click beetle genus *Semiotinus* was proposed by Pjatakowa (1941) to include a single species, *S. banghaasi* Pjatakowa from Colombia. It was distinguished from the related genus *Semiotus* Eschscholtz by having the pronotum wider than long, by the presence of carinae on the hind angles of the pronotum, and by the bulkier body.

Unfortunately, the type and only known specimen of this species was destroyed in a fire in Kiev in the 1940's along with several hundred other Pjatakowa types (V.G. Dolin, personal communication). In the process of revising the Neotropical genus *Semiotus*, it became clear that many of the smaller species assigned to that genus were similar to Pjatakowa's description of *Semiotinus*. A phylogenetic analysis of all species considered to be included in *Semiotus* indicated a basal monophyletic clade for a group of species sharing characters with *Semiotinus*

(Wells 2002). These species are herein assigned to the genus *Semiotinus*. Additionally, one previously undescribed species is included in the genus.

Of the 17 species here recognized, only a few are represented by more than a few specimens. A total of only 33 specimens were available for study from 26 major institutions or museums. Accordingly, intra-specific variability is not well understood and must be inferred from the genus *Semiotus*. The best approach under these circumstances is to be conservative in delimiting species.

MATERIALS AND METHODS

The following collections provided material for this study (involving both the genera *Semiotus* and *Semiotinus*). The recognized four-letter codens are from Arnett et al. (1993). Specimens of *Semiotinus* were present in only a few of these institutions.

The Natural History Museum, London (BMNH); California Academy of Sciences, San Francisco (CASC); Canadian Museum of Nature, Ottawa (CMNC); Canadian National Collection of Insects, Ottawa (CNCI); Colorado State University, C.P. Gillette Museum of Arthropod Biodiversity, Fort Collins (CSUC); Cornell University Insect Collections, Ithaca, New York (CUIC); Deutsches Entomologisches Institut, Eberswalde (DEIC); Escuela Agrícola Panamericana, Zamorano, Tegucigalpa, Honduras (EAPZ); E.G. Riley Collection (EGRC); Essig Museum, University of California, Berkeley (EMEC); Field Museum of Natural History, Chicago (FMNH); Hungarian Natural History Museum, Budapest (HNHM); Instituto Nacional de Biodiversidad, Santo Domingo, Costa Rica (INBC); Institut Royal des Sciences Naturelles de Belgique, Brussels (ISNB); Museum für Naturkunde, Berlin (MNFN); Muséum National d'Histoire Naturelle, Paris (MNHN); Montana Entomology Collection, Montana State University, Bozeman (MTEC); Naturhistorisches Museum, Vienna (NHMW); The Ohio State University Collection, Columbus (OSUC); University of Oxford, Hope Entomological Collections, United Kingdom (OXUM); Peter Cate Collection, Vienna (PCCV); Snow Entomological Collections, University of Kansas, Lawrence (SEMC); Staatliches Museum für Tierkunde, Dresden (SMTD); Texas A&M University, College Station (TAMU); National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM); Universitetets Zoologiske Museum, Copenhagen (ZMUC).

Male and female internal genitalia were examined after dissection and being cleared in a 1.0 molar solution of KOH at room temperature. Dissections were made on specimens from non-type material, except where available material was limited. The type material was too feeble to dissect. Color terminology was standardized by using the color charts in *A Dictionary of Color* (Maerz and Paul 1950) and then correlated

with color descriptions found in W. T. Stern's *Botanical Latin* (1983). These sources should be consulted for precise identification of colors in this study. A general description of the main colors referred to herein include aerigineus: verdigris; aurantiacus: apricot orange; badius: dull chocolate brown; fulvus: dull yellow with a mixture of gray and brown; lutens: buttercup yellow; piceus: black as pitch; rufopiceus: reddish black (in this study more black than reddish); sanguineus: blood red; testaceus: brick red to brownish yellow (of unglazed earthenware); viridis: untinted green.

Measurements of body length were made from the anterior margin of the frons (including frontal spines when present) to the tip of the clytra (including spines, when present). Measurements of body width were made at the widest part of the body—generally on the basal third of the clytra. Pronotal length was measured along the center-line of the pronotum. Pronotal width was measured at the tip of the hind angles. Elytral length was measured along the suture. Elytral width was measured at the widest point—generally at the basal third. The relative width of the eyes was determined using the ocular index (Campbell and Marshall 1964). This is determined by measuring the narrowest distance between the eyes divided by the width of the head measured across the eyes. This quotient is then multiplied by 100.

Distributional data in the material examined sections are from the specimen labels. Exceptions to this include the dates, which have been standardized so as to be read: day—month (in Roman numerals)—year. In cases where these periods are uncertain, the data have remained exactly as indicated on the labels. Larger political divisions have also been added in cases where they have not appeared on labels (and where they could be determined). Duplicate specimens of the same species bearing identical labels are only listed once. All available type material was examined, including Chassain's recent lectotype designations. The Pjatakowa types have been de-

stroyed (V.G. Dolin, personal communication).

DIAGNOSTIC CHARACTERS OF ADULTS

The genus *Semiotinus* is distinguished from all other genera in the Semiotinae by the straight or recurved lateral pronotal margin (as in Figs. 1, 14–18) that joins the dorsal surface of the pronotum and the hypomeron at an acute angle (Fig. 12). Other characters are also typical of the genus but are not, in themselves, diagnostic for all species. These characters include: the hind angles of the pronotum that are typically carinate or subcarinate, the prosternum that is typically straight in profile, the frons that is typically lobed and without projecting spines, the pronotum that is typically wider than long, the pronotal disk that is typically evenly convex across without depressions or tubercles, and the elytra that each typically terminate in an acute spine and either a sharp subapical angle or dentition. These characters are not typical of *Semiotus*.

Within the genus itself, the primary characters used to distinguish species are the presence or absence of frontal spines, shape of the lateral margin of the pronotum, color of the head, pronotum, and elytra, and shape of the apical elytral spines.

Male and female genitalic characters also differ interspecifically. The male parameres range from narrow to broad and bear an apical blade (Figs. 2–9). This blade varies significantly in size and shape ranging from triangular with sharp angles (Figs. 2–4) to sinuous with rounded edges (Fig. 6). Posteriorly the blade has lateral angles that differ in size and angle of projection. The anterior sclerite of the female bursa copulatrix also differs in the only two species examined. The pattern includes a median piece, or spine, flanked by two lateral arms, or spines (Figs. 10, 11).

Several species of *Semiotus* in the *S. caracasanus* group (Wells 2002) are superficially similar to the species of *Semiotinus* with frontal spines (*S. macer* (Candèze) and *S. aeneovittatus* (Kirsch)). Both groups lack

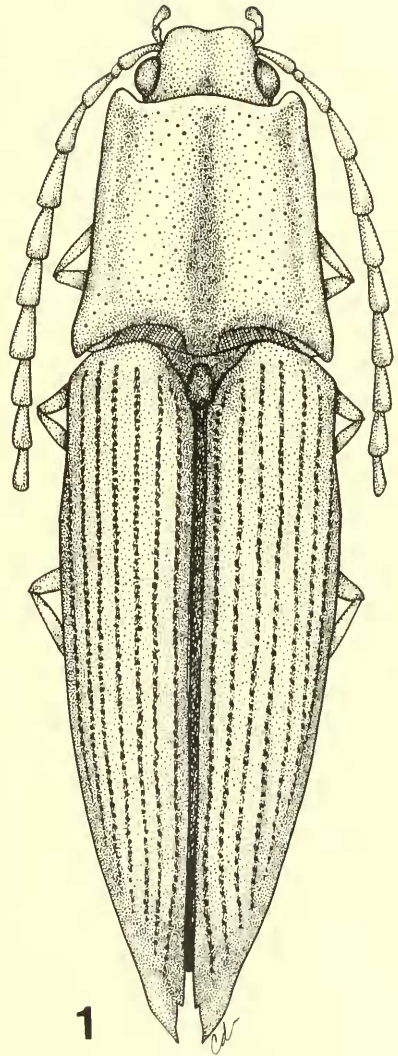


Fig. 1. *Semiotinus maculatus*.

marginal sulci. In these cases, species of *Semiotus* can be recognized by the broader pronotal border (joining the hypomera in an even curvature (as in Fig. 13) and not acutely as in *Semiotinus*) and by the very finely punctate pronotum and elytra with faint striae. The pronotal punctures in *Semiotinus* are deeper, and the striae and strial punctures are clearly defined.

KEY TO GENERA OF SEMIOTINAE

1. Pronotum, viewed from above, with sides straight or recurved (Figs. 14–18); dorsal surface of pronotum meeting hypomeron at an acute marginal angle, without defining sulcus (Fig. 12) *Semiotinus* Pjatakowa
- Pronotum, viewed from above, with sides sinuate or rounded (Fig. 19); lateral pronotal margin rounded, incassate, undulate, or sulcate, never acute (as in Fig. 13) 2
- 2(1). Tarsi with thick pubescent pads on segments 1 to 3 *Ostus* Candèze
- Tarsi with thin glabrous pads on segments 1 to 3 *Semiotus* Eschscholtz

Genus *Semiotinus* Pjatakowa

Semiotinus Pjatakowa 1941: 107 (type species, *Semiotinus Bang-Haasi* Pjatakowa, orig. desig.); Calder 1976: 107; Lawrence and Newton 1995: 853.

Description.—Length 7–23 mm, colored variously with combinations of orange, yellow, green, brown, and black. Frons with two spines or lacking frontal spines (as in Figs. 14–18). Antenna serrate extending one to four segments beyond hind angle. First two segments testaceous to piceus, remaining segments fulvus to piceus. Pronotum as wide as or wider than long, disk evenly convex; with or without setae, often glabrous, nitidus, punctation evenly scattered throughout, or becoming denser and umbilicate anterolaterally; lateral margins straight or recurved (in dorsal view), either parallel-sided or convergent anteriorly, without defining sulcus, pronotum and hypomeron joining at a sharp edge (Fig. 12), hind angles divergent or not. Hypomeron elongate, posterior border sinuous and often dentate, partially enclosing procoxae. Pros-

ternal process lobed anteriorly, prosternal process straight or curved in profile, extending between procoxae to mesosternal fossa. Scutellum subquadrate to elongate, longer than wide, flat or convex on disk. Legs fulvus to piceus, tarsal segments 1–3 lobed beneath; tarsal claws broad at base, without basal setae. Elytron widest anteriorly then narrowing to apex. Intervals flat or convex; elytral base on same plane as pronotum, occasionally gibbous and rising above level of pronotum; color piceus to fulvus, often with alternating light and dark bands; glabrous or pubescent; abdomen fulvus to piceus, sternite 5 of females often with two foveae. Bursa copulatrix generally with two posterior platelike sclerites, and one spinose anterior sclerite. Parameres generally bearing an apical blade apically.

Larvae and pupae unknown.

KEY TO SPECIES OF *SEMIOTINUS* PJATAKOWA

1. Head with two frontal spines (as in Fig. 15) 2
- Head without two frontal spines (as in Figs. 14, 16–18) 3
- 2(1). Pronotum and elytra pale yellow to light brown with greenish blue (often metallic) maculae or bands; apex of each elytron with two subequal spines (Fig. 22) *aeneovittatus* (Kirsch)
- Pronotum and elytra light brown, if markings present, then without greenish blue markings; apex of each elytron with a single spine and a subapical tooth or angle (Fig. 23) *macer* (Candèze)
- 3(1). Pronotum with three dark longitudinal vittae (sometimes confluent posteriorly) *trilineatus* (Candèze)
- Pronotum with 0, 1, or 2 dark vittae 4
- 4(3). Elytra unicolorous, at least on basal half 5
- Elytra not unicolorous, with light and dark contrasting vittae or patterns (or with pale elytra contrasting with infusate striae or strial punctures) 10
- 5(4). Elytra black, or dark reddish black *morio* (Candèze)
- Elytra dull yellow, yellowish green, or light brown to orange 6
- 6(5). Pronotal margin (viewed from above) strongly recurved (Fig. 14) *conicollis* (Candèze)

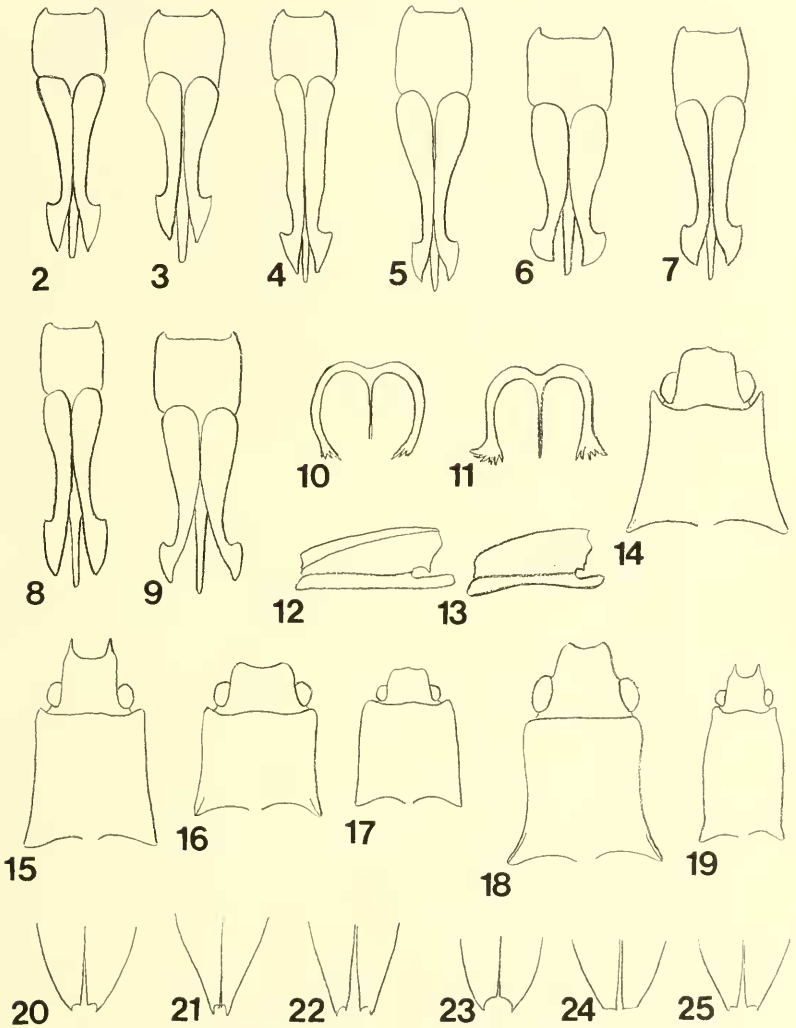


Fig. 2-25. *Semiotinus* and *Semiotus* species. 2-9, Male genitalia. 2, *Semiotinus quadricollis*. 3, *Semiotinus fusciformis*. 4, *Semiotinus boliviensis*. 5, *Semiotinus virescens*. 6, *Semiotinus limbaticollis*. 7, *Semiotinus aeneovittatus*. 8, *Semiotinus maculatus*. 9, *Semiotinus scitulus*. 10-11, Female anterior sclerite. 10, *Semiotinus aeneovittatus*. 11, *Semiotinus macer*. 12-13, Lateral aspect of pronotum. 12, *Semiotinus scitulus*. 13, *Semiotus zonatus*. 14-19, Head and pronotum. 14, *Semiotinus conicollis*. 15, *Semiotinus aeneovittatus*. 16, *Semiotinus nigricollis*. 17, *Semiotinus virescens*. 18, *Semiotinus boliviensis*. 19, *Semiotus nigriceps*. 20-25, Elytral apices. 20, *Semiotinus limbaticollis*. 21, *Semiotinus quadrivittis*. 22, *Semiotinus aeneovittatus*. 23, *Semiotinus macer*. 24, *Semiotinus nigricollis*. 25, *Semiotinus boliviensis*.

- Pronotal margin not strongly recurved (as in Figs. 1, 17) 7
- 7(6). Pronotum with two black vittae; elytra gibbous at base *brevicollis* (Candèze)
- Pronotum without black bands or with a single black band; elytra not gibbous at base 8
- 8(7). Elytra (at least on basal half) orange to blood red *maculatus*, n. sp.
- Elytra dull yellow to yellowish green 9
- 9(8). Lateral pronotal margins straight, hind angles divergent (Fig. 17); pronotum immaculate 17
- Lateral pronotal margins straight and parallel, not diverging posteriorly; pronotum maculate *quadricollis* (Kirsch), in part
- 10(4). Elytral intervals all dull yellow, striae and/or striae punctures infuscate (dark brown to black) 11
- Elytral intervals not all of same color 12
- 11(10). Pronotum with one dark discal macula or vitta *fusiformis* (Kirsch)
- Pronotum with two dark discal vittae *supplicans* (Kirsch)
- 12(10). Each elytron with four dark and four pale vittae—intervals 1, 3, 5, 7, and sometimes lateral margin, brown, intervals 2, 4, 6, 8 and 9 dull yellow *scitulus* (Candèze)
- Each elytron with fewer than four vittae of either color 13
- 13(12). Pronotum black, without yellow to light brown margins 16
- Pronotum black with yellow to light brown margins, or with discal band only black 14
- 14(13). Head black 15
- Head orange to pale brown *quadricollis* (Kirsch), in part
- 15(14). Elytra gibbous at base; lateral margin of elytra concave in outline near apex (Fig. 21) *quadrivittis* (Candèze)
- Elytra not gibbous, as wide (dorsoventrally) at base as on basal third; lateral margin of elytra evenly convex in outline near apex (Fig. 20) *limbaticollis* (Candèze)
- 16(13). Pronotum narrow, length of anterior pronotal margin approximately $\frac{2}{3}$ width of elytral humeri (Fig. 18); apex of each elytron bispinose, area between spines emarginate (Fig. 25) *boliviensis* (Candèze)
- Pronotum less narrow, length of anterior pronotal margin approximately $\frac{3}{4}$ or more width of elytral humeri (Fig. 16); apex of each elytron blunt and angulate, if small denticles present, then without emargination (Fig. 24) *nigricollis* (Candèze)

- 17(9). Body 4 mm wide at widest point *banghaasi* Pjatakowa
- Body less than 3.6 mm wide at widest point *virescens* (Candèze)

Semiotinus aeneovittatus (Kirsch),
n. comb.

(Figs. 7, 10, 15, 22)

Semiotus aeneovittatus Kirsch 1884: 44 (lectotype, female (Chassain, in press); SMTD; type locality: Ecuador, Huamboya).

Semiotus staudingeri Pjatakowa 1941: 107 (holotype destroyed; type locality: Ecuador, Normandia). **New synonym.**

Description.—*Length* 13–16 mm (length/width ratio 4.4–4.8). *Head* badius to rufopiceus on disk, fulvus to testaceus peripherally, with faint dark metallic sheen aeruginous, with two spines anterolaterally (Fig. 15); fine decumbent setae scattered throughout, punctation subumbilicate and scattered throughout. *Antenna* serrate, reaching 2–3 segments beyond hind angle of pronotum in male, 1–2 segments in female; segments 1 and 2 testaceous, segments 3–11 rufopiceus. *Thorax* with pronotum 2–3 mm (length/width ratio 0.7–1.0) subtrapezoidal, hind angles slightly diverging; margin thin, clearly defined; badius to rufopiceus with dark metallic sheen aeruginous; fine scattered setae and deep punctures throughout. Scutellum fulvus to badius, strongly convex, anterior margin declivitous and wider than rounded posterior margin. Prosternum linear in profile, apex of prosternal process not divided; fulvus to aurantiacus, with or without badius macula laterally; few erect setae anteriorly, denser and decumbent setae laterally, punctation fine medially, thicker laterally. Hypomeron fulvus to aurantiacus; glabrous, nitidus with fine decumbent setae and deep punctures near suture. Mesosternum depressed below plane of metasternum; fulvus to aurantiacus, fossa glabrous and impunctate, lateral areas with dense setae and fine punctures. Mesepisternum and epimeron fulvus to aurantiacus. Metasternum testaceous to auran-

tiacus with or without badius to piceus anterolateral areas; mostly glabrous with few erect setae and with fine decumbent setae anterolaterally, punctation fine medially, wider and denser anterolaterally. Femora fulvus to testaceus.

Elytron 9–12 mm (length/width ratio 3.1–3.3), gibbous anteriorly, subparallel on anterior half then narrowing to tip; ranging from a metallic aerugineus with circumscutellar area fulvus to luteus, to nearly entirely fulvus with fine aeruginous macula on intervals 6 and 8 basally; glabrous, nitidus, striae faint, strial punctures clearly defined; apex ending in a terminal spine and a large dentition along inner angle subapically (Fig. 22).

Abdomen testaceus to aurantiacus; fine setae and punctation becoming thicker laterally; female without foveae on sternite 5; anterior sclerite of bursa copulatrix with lateral arms enlarged apically, each bearing 2 to 3 large dentitions, lateral arms 1.2 times longer than median piece (Fig. 10). Male with parameres diverging apically, apical blades small, 20% length of parameres (Fig. 7).

Material examined.—ECUADOR: Huamboya, D. Stubel (lectotype of *S. aeneovittatus*, SMTD); Napo, Baeza, 2,000 m., 25-II-1979, H. & A. Howden (1, CNCI); Napo, 7 km S. Baeza, 2,000 m., (20–28)-II-1979, H. & A. Howden (1, CNCI).

Diagnosis.—The two frontal spines (Fig. 15) and the verdigris metallic sheen distinguish *S. aeneovittatus* from all other *Semiotinus*. *Semiotinus macer* also bears frontal spines but is readily distinguished by the brown body (and lack of verdigris metallic sheen), larger size, and more elongate and parallel-sided elytra.

Note.—The type material of *Semiotus staudingeri* has been destroyed (Dolin, personal communication). Pjatakowa's description, though, does not differ from the type of *S. aeneovittatus*. There are no other known species of *Semiotus* (or *Semiotinus*) that have the bluish green metallic coloration.

Semiotinus banghaasi Pjatakowa

Semiotinus Bang-Haasi Pjatakowa 1941: 107 (holotype; lost; type locality: Colombia; San Antonio)

No specimens of this species were available for study, but it apparently represents a valid species. The holotype was destroyed (V.G. Dolin, personal communication). The following description is interpreted from Pjatakowa (1941).

Description.—*Length* 14 mm, 4 mm wide (length/width ratio 3.3). *Head* flat, fulvus to testaceus, shallowly tri-impressed, sparsely punctate. *Antenna* long, extending to hind angle, with segments 1 and 2 flavotestaceus, segments 3–11 fuscus. *Thorax* with pronotum wider than long, nearly quadrangular; testaceus with obscure fulvus to viridis border; moderate punctures, anterior angles rounded, hind angles short, little divergent, with a distinct carina. Scutellum oblong, anterior margin truncate, rounded behind, 3-angled, slightly wider posteriorly. Venter, except epipleura and lateral areas of prosternum luteus to aurantiacus. Femora fulvus to testaceus.

Elytron convex, striate, striae piceus, punctate; fulvus to luteus with viridis tint; glabrous; apex emarginate.

Material examined.—None.

Note.—Pjatakowa's description of *S. banghaasi* seems to place the species next to *S. virescens*. Both species are yellowish green and similar with respect to the characters listed by Pjatakowa in the description of *S. banghaasi*. The important difference between the two species is the width of the body, which in *S. banghaasi* is 4 mm, and in *S. virescens*, less than 3.6 mm. A specimen (in the BMNH) labelled as *S. banghaasi* is too narrow and should be considered *S. virescens*.

Semiotinus boliviensis (Candèze),

n. comb.

(Figs. 4, 18, 25)

Semiotus boliviensis Candèze 1895: 16 (holotype, male; INSB; type locality: Bolivia).

Description.—*Length* 10–11 mm (length/width ratio 4.4–4.6). *Head* piceus, frontal margin with two angulate lobes anterolaterally, without spines; long setae and umbilicate punctures throughout. *Antenna* serrate, reaching 3–4 segments beyond hind angle; badius to piceus. *Thorax* with pronotum 2 mm (length/width ratio 0.8–0.9) parallel sided on anterior half then strongly diverging to hind angles (Fig. 18), margin thin, hind angles carinate; piceus; long setae and deep punctation throughout, becoming denser peripherally. Scutellum subrectangular, longer than wide, covered with long setae. Prosteronum nearly straight in profile; piceus; long setae and scattered punctures throughout. Hypomeron rufopiceus. Mesosternum rufopiceus to piceus; long golden setae and scattered punctures throughout. Mesepisternum and metasternum rufopiceus to piceus; long aureus setae and scattered punctures throughout. Femora rufopiceus to piceus.

Elytron 8 mm (length/width ratio 3.2–3.4), subgibbous, subparallel on anterior $\frac{1}{2}$ then narrowing to tip; badius to piceus with intervals 2–4 (or 5) fulvus; nitidus, with short setae, intervals convex, striae and stria punctures clearly defined; apex ending in a terminal spine and a smaller dentition along inner angle subapically (Fig. 25).

Abdomen badius to piceus; long aureus setae and scattered punctures throughout. Male with parameres sinuate along apical third (Fig. 4), apical blades subtriangular, approximately 20% length of parameres. Female unknown.

Material examined.—BOLIVIA: (1, INSB).

Diagnosis.—The completely black head, lack of frontal spines and very narrow anterior aspect of the pronotum (Fig. 18), and recurved pronotal margins distinguish *S. boliviensis* from all other *Semiotinus*.

Semiotinus brevicollis (Candèze),

n. comb.

Semiotus brevicollis Candèze 1857: 332 (holotype: BMNH; type locality: N. Granada); Candèze 1874: 186.

Semiotus stramineus Candèze 1857: 333 (holotype: BMNH; type locality: Colombia); Candèze 1874: 188. **New synonym.**

Description.—*Length* 13–17 mm (length/width ratio 4.0–4.2). *Head* testaceus to aurantiacus, front without spines; fine decumbent setae scattered throughout and long erect setae over eyes and anterior margin, punctation scattered throughout; ocular index 75.0–78.0. *Antenna* reaching 1–3 segments beyond hind angle; segments 1 and 2 testaceus, segments 3–11 badius. *Thorax* with pronotum 2–4 mm (length/width ratio 0.7–0.9), sides straight, diverging to angles, hind angles subcarinate; margin thin, clearly defined; lateral and anterior margins testaceus, wide, sublateral bands piceus, median area aurantiacus to badius; dense decumbent setae throughout, punctation deep, especially deep and umbilicate on piceus bands. Scutellum fulvus to testaceus, longer than wide, hind margin rounded, anterior margin straight. Prosteronum linear in profile, tip of prosternal process not divided; testaceus to aurantiacus medially with rufopiceus macula along suture extending onto hypomeron; nearly glabrous and impunctate medially, with erect setae and deep punctures anterolaterally. Hypomeron fulvus to aurantiacus laterally, with rufopiceus band along suture extending nearly to lateral margin; with dense decumbent setae and punctures along suture, nearly glabrous with very fine punctures laterally. Mesosternum testaceus to aurantiacus, fossa glabrous and impunctate, lateral areas with dense setae and fine punctures. Mesepisternum testaceus to aurantiacus. Metasternum aurantiacus to sanguineous, badius to piceus anterolaterally; with few setae medially becoming dense anterolaterally, punctation fine medially becoming denser anterolaterally. Femora testaceus.

Elytron 10–12 mm (length/width ratio 2.9–3.1), gibbous basally, subparallel on anterior $\frac{2}{3}$ then narrowing to tip; fulvus, stria punctures darker; glabrous, nitidus, intervals convex, striae and stria punctures

clearly defined; apex ending in a terminal spine and a smaller dentition along inner angle subapically.

Abdomen testaceus to aurantiacus with nebulous infuscation sublaterally; fine setae and punctation becoming denser laterally; female without foveae on sternite 5. Male unknown.

Material examined.—COLOMBIA: (1, BMNH); N. GRANADA (this could be anywhere in Ecuador, Colombia, Venezuela, or Panama) (1, BMNH).

Diagnosis.—*Semiotinus brevicollis* is distinct from other *Semiotinus* in having unicolorous elytra, a yellow to orange head, gibbous elytral base, and two pronotal vitae. The type of *S. stramineus* is larger (being just over 16 mm long) than other known examples of *S. brevicollis*. No other differences could be determined. The two are here considered conspecific.

Semiotinus conicollis (Candèze), **n. comb.**
(Fig. 14)

Semiotus conicollis Candèze 1857: 333 (holotype: BMNH; type locality: Colombia); Candèze 1874: 188.

Description.—*Length* 19–20 mm (length/width ratio 3.7–3.9). *Head* fulvus to testaceus, frontal margin often angled without spines; nitidus with few decumbent setae scattered throughout; ocular index 66.0–68.0. *Antenna* serrate, reaching 3–4 segments beyond hind angle; segments 1 and 2 testaceus, segments 3–11 testaceus to badius. *Thorax* with pronotum 3–4 mm (length/width ratio 0.7–0.8) wider than long, sides strongly recurved (viewed from above), hind angles divergent (Fig. 14); testaceus to aurantiacus, darker on disk; glabrous, nitidus. Scutellum testaceus to aurantiacus, subtriangular. Prosternum linear in profile; testaceus to aurantiacus, lobe paler; glabrous with fine punctation medially, denser setae and punctation laterally. Hypomeron fulvus; covered with fine setae and punctures throughout. Mesosternum fulvus to testaceus, fossa glabrous and im-

punctate, lateral areas with dense setae and fine punctures. Mesepisternum testaceus to badius. Metasternum testaceus to badius; sparse erect setae medially, denser decumbent setae laterally on dark area. Femora aurantiacus to testaceus.

Elytron 15 mm (length/width ratio 2.8–3.0) gibbous; unicolorous fulvus with faint viridis tint; glabrous, nitidus, striae faint to obsolete, stria punctures clearly defined; apex bearing two small spines or dentitions.

Abdomen testaceus; scattered erect setae medially, dense decumbent setae laterally, punctation fine becoming dense laterally. Genitalia not examined.

Material examined.—COLOMBIA: (1, BMNH).

Diagnosis.—The unicolorous elytra, recurved pronotal margin (Fig. 14), and yellow to light brown head readily distinguish *S. conicollis* from all other *Semiotinus*.

Semiotinus fusiformis (Kirsch), **n. comb.**
(Fig. 3)

Semiotus fusiformis Kirsch 1866: 181 (lectotype, female (Chassain, in press); SMTD; type locality: Bogotá); Steinheil 1875: 113; Candèze 1874: 185.

Semiotus juvenilis Candèze 1874: 187 (holotype: BMNH; type locality: Colombia). **New synonym.**

Semiotus borrei Candèze 1878: 9 (type: not found; type locality: Ecuador). **New synonym.**

Description.—*Length* 12–13 mm (length/width ratio 4.8–4.9). *Head* piceus, front without spines; fine decumbent setae and shallow subumbilicate punctures throughout. *Antenna* reaching 3–4 segments beyond hind angle in male; segments 1 and 2 testaceus, segments 3–11 rufopiceus to piceus. *Thorax* with pronotum 2–3 mm (length/width ratio 0.8–0.9) subtrapezoidal, hind angles diverging; margin thin, clearly defined; fulvus to aurantiacus, with elliptical piceus macula medially; glabrous. Scutellum badius to piceus, longer than wide, posterior border rounded, anterior margin

straight. Prosternum linear in profile, tip of prosternal process not divided; piceus, prosternal lobe and prosternal process fulvus to aurantiacus; few erect setae anteriorly, decumbent setae laterally, punctation fine medially, thicker laterally. Hypomeron fulvus to luteus, piceus laterally along suture; nitidus with or without few scattered setae throughout, punctation of few shallow subumbilicate punctures throughout. Mesosternum fulvus to testaceus medially, piceus laterally, fossa glabrous and impunctate, lateral areas with dense setae and fine punctures. Mesepisternum piceus. Metasternum badius to piceus throughout or with fulvus to testaceus median coloration; glabrous with fine punctation medially, with fine decumbent setae and denser punctation anterolaterally. Femora fulvus to testaceus.

Elytron 8–10 mm (length/width ratio 3.5–3.7), subparallel on anterior half then narrowing to tip; fulvus to luteus with striae punctures badius to rufopiceus; glabrous, nitidus, striae and striae punctures clearly defined, intervals convex; apex ending in a terminal spine and a smaller dentition along inner angle subapically.

Abdomen badius to rufopiceus, sternite 5, lateral areas of sternites 3 and 4 and medial area of sternite 1 lighter; fine setae and punctation becoming thicker laterally. Male with parameres subtriangular apically, lateral margins convex, aedeagus extending beyond apical tips of blades (Fig. 3).

Material examined.—COLOMBIA: Bogota, Kirsch (1, SMTD); ECUADOR: Pich., 35 km E Tandapi, 8,000–9,000 ft., 24-IV-1975, S. & J. Peck (1, CNCI); E. de Ville, 71 (1, INSB).

Diagnosis.—The single pronotal band and fulvus elytra with infusate punctures separate *S. fusciformis* from all other *Semiotinus*.

Note.—The type of *S. borrei* has not been located. A specimen with the author's (Candèze) determination label was located in Brussels (INSB). This specimen is clearly a synonym of *S. fusciformis*.

Semiotinus limbaticollis (Candèze),

n. comb.

(Figs. 6, 20)

Semiotus limbaticollis Candèze 1857: 336 (holotype: BMNH; type locality: Colombia); Candèze 1874: 188.

Description.—*Length* 9–10 mm (length/width ratio 4.1–4.3). *Head* piceus throughout without spines; few long setae and scattered shorter setae, punctation subumbilicate. *Antenna* serrate, reaching 3–4 segments beyond hind angle; piceus. *Thorax* with pronotum 2 mm (length/width ratio 0.8–1.0), subquadrate, margins straight, gradually widening posteriorly, hind angles subcarinate; piceus, with thin fulvus to aurantiacus margins becoming wider near angles. Scutellum badius to rufopiceus, parallel-sided, angles rounded, longer than wide. Prosternum linear in profile; piceus, lobe and prosternal process fulvus to testaceus; long pale setae, punctation becoming umbilicate laterally. Hypomeron piceus, with lateral margin fulvus to aurantiacus; long pale setae, punctation close and umbilicate throughout. Mesosternum aurantiacus medially, piceus laterally, covered with long pale setae. Mesepisternum piceus. Metasternum piceus; glabrous medially, with dense decumbent setae laterally, punctation fine becoming dense laterally. Femora fulvus to testaceus.

Elytron 6–8 mm (length/width ratio 3.0–3.1), subparallel on anterior $\frac{2}{3}$ then narrowing to tip; badius to rufopiceus with intervals 1–4, 9, and margin fulvus to luteus on basal $\frac{2}{3}$; glabrous, nitidus, with fine setae laterally, striae punctures well defined, striae fine to obsolete; apex ending in one spine apically and a smaller dentition subapically (Fig. 20).

Abdomen piceus, with lateral margin badius, sternite 5 testaceus; pale setae and fine punctation throughout. Male with parameres sinuate, apical blades with lateral margins strongly convex (Fig. 6).

Material examined.—COLOMBIA: (1, BMNH); ECUADOR: Chiquinda, Buckley (1, BMNH).

Diagnosis.—The combination of the

black head lacking frontal spines, contrasting elytral bands or patterns (fewer than 4 of each color per elytron), and evenly convex elytral margins distinguish *S. limbaticollis* from all other *Semiotinus*.

Semiotinus macer (Candèze), **n. comb.**
(Figs. 11, 23)

Semiotus macer Candèze 1889: 80 (holotype, female; INSB; type locality: Colombia).

Description.—*Length* 21 mm (length/width ratio 4.5–4.7). *Head* testaceous to aurantiacus, with two spines anterolaterally; fine decumbent setae and deep punctation throughout with longer setae over spines; ocular index 64.0–66.0. *Antenna* serrate, reaching 2–3 segments beyond hind angle; testaceous to piceus. *Thorax* with pronotum 4 mm (length/width ratio 1.0), sides straight, narrowly diverging posteriorly; margin thin, clearly defined; testaceous to aurantiacus, with piceus band extending from base to near apex; glabrous, nitidus with punctures widely separated. Scutellum strongly declivitous anteriorly, without clear anterior margin, lateral margins convex; testaceous to badius. Prosternum concave in profile, not divided at apex; testaceous to aurantiacus with or without badius to piceus maculae along suture; glabrous, nitidus medially with fine setae and deep punctures laterally. Hypomeron fulvus to aurantiacus; glabrous laterally with fine setae and deep punctures along suture. Mesosternum aurantiacus to badius, fossa glabrous and impunctate, lateral areas with dense setae and fine punctures. Mesepisternum badius to piceus. Metasternum testaceous to rufopiceus. Femora aurantiacus to badius.

Elytron 15 mm (length/width ratio 3.2–3.4), long and narrow, subparallel on anterior $\frac{3}{4}$ then rounded to tip; testaceous, strial punctures infuscate; mostly glabrous, nitidus with occasional setiferous punctures, intervals nearly flat, striae obscure to obsolete, strial punctures pronounced; apex ending in a terminal small spine and a

smaller dentition or sharp angle along suture subapically (Fig. 23).

Abdomen testaceous to aurantiacus; fine setae and dense punctation throughout; female with two elliptical and very shallow piliferous foveae in center of sternite 5; anterior sclerite of the bursa copulatrix with lateral arms enlarged apically, each bearing two to three large dentitions, lateral arms 1.2 times longer than median piece (Fig. 11). Male unknown.

Material examined.—COLOMBIA: (1, INSB).

Diagnosis.—The very elongate and parallel-sided body (at least 4.5 times longer than wide) in combination with the two frontal spines distinguish *S. macer* from all other *Semiotinus*. *Semiotinus aeneovittatus* also bears frontal spines but is less elongate, and has a metallic bluish maculae on the pronotum and elytra which contrasts with the fulvus to testaceous base color. *Semiotinus macer* is darker testaceous and lacks metallic blue maculae.

Semiotinus maculatus Wells, new species
(Figs. 1, 8)

Description.—*Length* 15 mm (length/width ratio 4.1–4.2). *Head* aurantiacus with basal piceus macula, without spines; glabrous, nitidus with few erect setae above eyes and anterior margin, punctation deep and scattered throughout. *Antenna* extending three segments beyond hind angle in male; segments 1 and 2 testaceous, segments 3–11 piceus. *Thorax* with pronotum 3–4 mm (length/width ratio 1.0–1.1); subtrapezoidal, sides straight, posterior margin wider than anterior margin, hind angles hardly divergent; margin narrowly incrassate without sulcus; aurantiacus to testaceous with narrow piceus band medially; glabrous, nitidus with deep punctation scattered throughout; scutellum piceus, narrowly ovate, nearly twice as long as wide; prosternum nearly straight in profile; aurantiacus to testaceous medially, piceus laterally; glabrous with fine punctation medially and with decumbent and erect setae and deep

punctuation laterally. Hypomeron aurantiacus to testaceous with piceus band along suture; glabrous, nitidus laterally with fine setae and deep punctuation medially. Mesosternum finely punctate with fine setae, fossa glabrous and impunctate; aurantiacus to testaceous medially, piceus laterally. Mesepisternum piceus. Metasternum aurantiacus to testaceous medially, piceus laterally; glabrous with fine punctuation medially, with decumbent setae and denser punctuation laterally. Femora fulvus to testaceous.

Elytron 10–11 mm (length/width ratio 2.9–3.0) subparallel on anterior half then narrowing to tip; testaceous to aurantiacus with interval I infuscate on posterior half; glabrous, nitidus, striae and strial punctures deep to moderately deep; apex bearing one spine.

Abdomen aurantiacus to testaceous medially, badius laterally; nearly glabrous with fine punctuation medially, with decumbent setae and denser punctuation laterally; female unknown. Male with parameres narrow medially, apical blades 0.3 times length of parameres (Fig. 8).

Material examined.—Holotype (♂): EC-UADOR: Napo, Baeza, 2000 m, 25-II-1979, H. & A. Howden (CNCI). Paratype: EC-UADOR: Chiquinda, Buckley (1 ♂, BMNH).

Diagnosis.—*Semiotus maculatus* can be separated from all other *Semiotinus* by the uniform orange to light brown dorsal color (except the piceus scutellum and pronotal and frontal band and the darker infuscation on the apical half of the elytra in the paratype) and the concave outline of the elytral margin near the apex.

Note.—The specific name '*maculatus*' refers to the maculate pronotum.

Semiotinus morio (Candèze), **n. comb.**

Semiotus morio Candèze 1857: 336 (holotype: BMNH; type locality: Colombia; Candèze 1874: 189.

Description.—*Length* 10–11 mm (length/width ratio 3.5–3.6). *Head* piceus throughout without spines; few long setae and subum-

bilicate punctures. *Antenna* serrate, reaching 3–4 segments beyond hind angle; piceus. *Thorax* with pronotum 1–3 mm (length/width ratio 0.8–0.9) subcomplanate, lateral margin curving inwards to almost straight; margin thin, without sulcus, hind angles carinate; piceus; nitidus, with long pale setae laterally. Scutellum piceus, subtriangular, anterior margin not defined. Femora linear in profile; piceus; vestiture double, punctuation becoming umbilicate laterally. Hypomeron piceus; long pale setae, punctuation close and umbilicate throughout. Mesosternum piceus, vestiture double. Mesepisternum piceus. Metasternum piceus; vestiture double, punctuation fine throughout. Femora testaceous to rufopiceus.

Elytron 8–9 mm (length/width ratio 2.3–2.5), subparallel on anterior ½ then narrowing to tip; deep sanguineous to rufopiceus throughout; glabrous, nitidus, with fine setae laterally, striae and strial punctures well defined; apex ending in two dentitions apically.

Abdomen piceus, without lateral pale areas, sternite 5 with or without testaceous to sanguineous patches; vestiture double, punctuation fine throughout. Genitalia not examined.

Material examined.—COLOMBIA: (1, BMNH).

Diagnosis.—The small size and black to reddish black coloration of the body separate *S. morio* from all other *Semiotinus*.

Semiotinus nigricollis (Candèze), **n. comb.**
(Figs. 16, 24)

Semiotus nigricollis Candèze 1857: 335 (holotype: BMNH; type locality: N. Granada); Candèze 1874: 188.

Description.—*Length* 13 mm (length/width ratio 3.7–3.9). *Head* piceus throughout without spines; few long setae and subumbilicate punctures; ocular index 67.0–69.0. *Antenna* serrate, reaching 3–4 segments beyond hind angle; piceus. *Thorax* with pronotum 2–3 mm (length/width ratio 0.7–0.9) subcomplanate, lateral margin curving inwards to almost straight (Fig.

16); margin thin, without sulcus, hind angles carinate; piceus; nitidus, with long pale setae laterally. Scutellum piceus, longer than wide, subrectangular. Prosternum linear in profile; piceus; long pale setae, punctation becoming umbilicate laterally. Hypomerone piceus; long pale setae, punctation close and umbilicate throughout. Mesosternum piceus, covered with long pale setae. Mesepisternum and mesepimeron piceus. Metasternum piceus; glabrous medially, with long setae laterally, punctation fine throughout. Femora piceus.

Elytron 10–11 mm (length/width ratio 2.9–3.1), subgibbous anteriorly; interval 1 rufopiceus; intervals 2–5 (and part of 6 basally) fulvus to luteus, intervals 7–9 rufopiceus; glabrous, nitidus, with fine setae laterally, striae punctures well defined, striae fine to obsolete; apex ending in two dentitions apically (Fig. 24).

Abdomen piceus, with lateral margin and all of sternite 5 testaceous to sanguineous; pale setae and fine punctation throughout. Genitalia not examined.

Material examined.—N. GRANADA (this could be anywhere in Ecuador, Colombia, Venezuela, or Panama) (1, BMNH).

Diagnosis.—The blunt elytral apices (Fig. 24) and completely black pronotum distinguish *S. nigricollis* from all other *Semiotinus*.

Semiotinus quadricollis (Kirsch), **n. comb.** (Fig. 2)

Semiotus quadricollis Kirsch 1866: 181 (lectotype, female (Chassain, in press); SMTD; type locality: Bogotá); Candèze 1874: 187.

Semiotus diptychus Candèze 1874: 188 (holotype; BMNH; type locality: Ecuador).

New synonym.

Semiotus subvirescens Schwarz 1904: 49 (syntype (1 found), female; DEIC; type locality: Ecuador, Balzapamba). **New synonym.**

Description.—*Length* 12–15 mm (length/width ratio 4.2–4.3). *Head* testaceous to au-

rantiacus, front without spines; fine decumbent setae scattered throughout and long erect setae over eyes and anterior margin, punctation scattered throughout; ocular index 69.0–72.0. *Antenna* reaching 0–2 segments beyond hind angle in female; segment one testaceous, segments 2–11 piceus. *Thorax* with pronotum 2–3 mm (length/width ratio 0.9–1.0), subtrapezoidal, nearly straight, hind angles hardly diverging, carinate; margin thin, clearly defined; aurantiacus with lateral margins paler, with median macula piceus; dense decumbent setae throughout, punctation deep becoming nearly contiguous along lateral margin. Scutellum testaceous, longer than wide, posterior border rounded, anterior margin straight. Prosternum linear in profile to slightly concave, tip of prosternal process not divided; testaceous to aurantiacus medially with or without a rufopiceus macula along suture extending onto hypomerone; nearly glabrous and impunctate medially, with erect setae and deep punctures anterolaterally. Hypomerone fulvus to aurantiacus laterally, occasionally rufopiceus along suture; with dense decumbent setae and punctures along suture, nearly glabrous with very fine punctures laterally. Mesosternum testaceous to aurantiacus, fossa glabrous and impunctate, lateral areas with dense setae and fine punctures. Mesepisternum testaceous to aurantiacus. Metasternum testaceous to aurantiacus medially, occasionally badius to piceus anterolaterally; with few setae medially becoming dense anterolaterally, punctation fine medially becoming denser anterolaterally. Femora testaceous, tibiae and tarsi darker infusate.

Elytron 8–11 mm (length/width ratio 2.9–3.1), subparallel on anterior $\frac{2}{3}$ then narrowing to tip; fulvus, striae punctures darker, with or without darker humeral bands; glabrous, nitidus, intervals convex, striae and striae punctures clearly defined; apex ending in a terminal spine and a smaller dentition along inner angle subapically.

Abdomen testaceous to aurantiacus with nebulous infuscation sublaterally; fine setae

and punctation throughout; female without foveae on sternite 5. Male with apical blade of parameres subtriangular, lateral margins convex (Fig. 2).

Material examined.—COLOMBIA: (3, BMNH; 1, ISNB); N. de S. 2600 m, 30 km S Chinacota, 14-V-1974, H. & A. Howden (1, CNCI); ECUADOR: Balzapamba, R. Haensch S. (1, DEIC).

Diagnosis.—*Semiotinus quadricollis* is distinct from other *Semiotinus* in having a subquadrate pronotum with a yellow to orange head and a single pronotal band. *Semiotinus conicollis* and *S. brevicollis* also have yellow to light brown heads but have two dark pronotal bands (*S. brevicollis*) or have a strongly recurved pronotum (*S. conicollis*).

Note.—As with most other *Semiotinus*, *S. quadricollis* is known from very few specimens. Only six specimens were seen in this study, two of which are the types of the synonyms *S. subvirescens* and *S. diptychus*. The venter of the type of *S. diptychus* is paler and the frontal macula is darker than in *S. quadricollis*. This difference, however, has not proven to be of value when comparing variability of other *Semiotinus* nor in the sister genus *Semiotus*.

Semiotinus quadrivittis (Steinheil),

n. comb.

(Fig. 21)

Semiotus quadrivittis Steinheil 1875: 113 (lectotype (Chassain, in press): MNHN; type locality: N. Granada).

Semiotus pulchellus Candèze 1889: 81 (holotype: INSB; type locality: Colombia).

New synonym.

Description.—Length 12–16 mm (length/width ratio 3.9–4.0). *Head* piceus throughout, front without spines; fine decumbent setae scattered throughout; ocular index 64.0–66.0. *Antenna* serrate, reaching 2–3 segments beyond hind angle; segments 1 and 2 testaceous, segments 3–11 rufopiceus to piceus. *Thorax* with pronotum 2–4 mm (length/width ratio 0.9–1.1), margins straight, subparallel, hind angles hardly di-

verging; margin thin, clearly defined; fulvus to aurantiacus laterally with large maculae on disk extending from base to (or near to) anterior margin; glabrous or with very fine setae scattered throughout. Scutellum testaceous to piceus, longer than wide. Prosternum nearly linear in profile; piceus, prosternal process and lobe testaceous to aurantiacus. Hypomerion badius to piceus along suture, fulvus to luteus laterally. Mesosternum testaceous to aurantiacus medially, piceus laterally, fossa glabrous and impunctate, lateral areas with dense setae and fine punctures. Mesepisternum piceus. Metasternum testaceous to aurantiacus medially, piceus laterally (or completely piceus). Femora testaceous to piceus.

Elytron 8–12 mm (length/width ratio 2.8–2.9), slightly gibbous; fulvus to aurantiacus with three piceus bands (one along interval 1, one around interval 8, and one band between intervals 1 and 8); glabrous, nitidus; apex ending in a terminal spine and a smaller dentition along inner angle subapically (Fig. 21).

Abdomen testaceous to aurantiacus with scattered piceus maculae. Genitalia not examined.

Material examined.—COLOMBIA: Medellín, 1915–38 (1, BMNH); N. Granada (1, ISNB; 1, MNHN).

Diagnosis.—The dark brown to black pronotal band with yellow to light brown margins, fewer than four alternating light and dark elytral bands, gibbous elytra, and narrow (concave in outline) elytral apices distinguish *S. quadrivittis* from all other *Semiotinus*.

Semiotinus scitulus (Candèze), **n. comb.**

(Figs. 9, 12)

Semiotus scitulus Candèze 1874: 186 (holotype: BMNH; type locality: Ecuador).

Description.—Length 12–13 mm (length/width ratio 4.0–4.4). *Head* piceus throughout or with anterolateral angles aurantiacus, front without spines; fine decumbent setae scattered throughout, punctation subumbil-

icate and scattered throughout; ocular index 64.0–67.0. *Antenna* serrate, reaching 2–3 segments beyond hind angle in male; segments 1 and 2 testaceous, segments 3–11 rufopiceus to piceus. *Thorax* with pronotum 2–4 mm (length/width ratio 0.8–1.1), subtrapezoidal, hind angles hardly diverging; margin thin, clearly defined (Fig. 12); fulvus to aurantiacus with large suborbicular to subquadrate piceus macula on disk (often pointed apically); glabrous or with fine setae scattered throughout. Scutellum badius to piceus, longer than wide, posterior border rounded, anterior margin straight. Prosternum linear in profile, tip of prosternal process not divided; piceus, prosternal process and lobe fulvus to testaceous; few erect setae throughout becoming denser and decumbent laterally, punctation fine medially, thicker laterally. Hypomeron badius to piceus along suture, fulvus to luteus laterally; glabrous, nitidus, or with few scattered setae, punctation of few shallow subumbilicate punctures throughout. Mesosternum fulvus to testaceous medially, piceus laterally, fossa glabrous and impunctate, lateral areas with dense setae and fine punctures. Mesepisternum piceus. Metasternum badius to piceus throughout or with fulvus to testaceous median coloration; glabrous with fine punctation medially, with fine decumbent setae and denser punctation anterolaterally. Femora aurantiacus to testaceous.

Elytron 9–10 mm (length/width ratio 2.9–3.1), subparallel on anterior half then narrowing to tip; fulvus to luteus with intervals 1, 3, 5, 7, and lateral margin badius to piceus; glabrous, nitidus, striae faint, strial punctures clearly defined; apex ending in a terminal spine and a smaller dentition along inner angle subapically.

Abdomen aurantiacus to rufopiceus with fulvus areas on sternites 1 and 5; fine setae and punctation becoming thicker laterally; female not seen. Male with parameres narrowing apically before blades, apices divergent, apical blades small, less than 20% length of parameres (Fig. 9).

Material examined.—ECUADOR: (1,

BMNH); VENEZUELA: Merida, Tabay, Mucuy, Send. Lag. Suero cloud forest, 225 m, (VI–VII)-1989. S & J Peck (1, CMNC); Merida, S. Briceno (1, USNM).

Diagnosis.—The presence of alternating light and dark elytral bands (4 each per elytron) distinguishes *S. scitulus* from all other *Semiotinus*.

Semiotinus supplicans (Kirsch), **n. comb.**

Semiotus supplicans Kirsch 1884: 45 (lectotype, male (Chassain, in press); SMTD; type locality: Colombia, Pasto, 2800 m).

Description.—*Length* 18 mm (length/width ratio 2.9–3.1). *Head* fulvus to testaceous, without piceus maculae; frons with anterolateral areas rounded to angled, without spines; scattered setae throughout. *Antenna* serrate, reaching 2–3 segments beyond hind angle; segments 1 and 2 testaceous, segments 3–11 piceus. *Thorax* with pronotal margins straight, hind angles not, or hardly, diverging; fulvus to testaceous with two sinuate piceus bands sublaterally; with dense setae, especially over piceus bands. Scutellum subtriangular, fulvus to testaceous. Femora testaceous.

Elytron subparallel on anterior $\frac{2}{3}$ then narrowing to tip; fulvus to testaceous with strial punctures infuscate; glabrous, nitidus, striae and strial punctures distinct; apex bearing two subequal spines. Male genitalia not examined.

Material examined.—COLOMBIA: Pasto, 2800 m., D. Stübel (1, SMTD).

Diagnosis.—The uniform pale elytral color interrupted by infuscate strial punctures, the two pronotal bands, and the two subequal spines on each elytron separate *S. supplicans* from all other *Semiotinus*.

Semiotinus trilineatus (Candèze), **n. comb.**

Semionus trilineatus Candèze 1857: 324 (syntypes (3), female; BMNH; type locality: Colombia); Steinheil 1875: 112; Candèze 1874: 182.

Semiotus elegantulus Candèze 1857: 325 (syntypes (2); BMNH; type locality: Co-

lombia); Candèze 1874: 182. **New synonym.**

Description.—*Length* 11–15 mm (length/width ratio 4.2–4.6). *Head* fulvus to testaceous, frontal margin often angled without spines; nitidus with few decumbent setae scattered throughout; ocular index 72.0–75.0. *Antenna* serrate, extending 0–1 segments beyond hind angle in female; segments 1 and 2 testaceous, segments 3–11 testaceous to badius. *Thorax* with pronotum 2–4 mm (length/width ratio 0.9–1.2), subquadrate, lateral margins straight, hind angles diverging; fulvus to aurantiacus with long thin median band (extending length of pronotum) and two sublateral shorter and sinuate badius to rufopiceus bands, hind angles often obscure; glabrous, nitidus. Scutellum fulvus to testaceous, longer than wide, posterior border rounded. Prosternum linear in profile; testaceous to aurantiacus, lobe paler, with or without piceus marking along suture; glabrous with fine punctation medially, denser setae and punctation laterally. Hypomeron fulvus, hind angles with or without piceus macula; glabrous, nitidus, punctation very fine throughout. Mesosternum testaceous, fossa glabrous and impunctate, lateral areas with dense setae and fine punctures. Mesepisternum testaceous. Metasternum testaceous, often piceus anterolaterally; sparse erect setae medially, denser decumbent setae laterally on dark area. Femora aurantiacus to testaceous.

Elytron 8–12 mm (length/width ratio 2.9–3.6), subparallel on anterior $\frac{2}{3}$ then narrowing to tip; intervals 2, 4, 6, and 8 fulvus, intervals 1, 3, 5, and 7 either fulvus vitreus or badius vitreus; glabrous, nitidus, striae faint to obsolete, strial punctures clearly defined; apex ending in a terminal spine and a smaller dentition along inner angle subapically.

Abdomen testaceous medially, badius laterally; scattered erect setae medially, dense decumbent setae laterally, punctation fine becoming dense laterally; female without foveae. Male genitalia not examined.

Material examined.—**COLOMBIA:** (5, BMNH); Bogotá (2, BMNH).

Diagnosis.—The presence of three distinct pronotal vittae (sometimes confluent basally) distinguishes *S. trilineatus* from all other *Semiotinus*.

Semiotinus virescens (Candèze), **n. comb.**
(Figs. 5, 17)

Semiotus virescens Candèze 1857: 331 (holotype, female; BMNH; type locality: Colombia); Candèze 1874: 185.

Description.—*Length* 13 mm (length/width ratio 3.9–4.0). *Head* fulvus to aurantiacus, front without spines; glabrous, nitidus with few erect setae over eyes and anterior margin, punctation deep and scattered throughout; ocular index 72.0–75.0. *Antenna* serrate, extending 1–2 segments beyond hind angle in male; segments 1 and 2 testaceous, segments 3–11 piceus. *Thorax* with pronotum 2–3 mm (length/width ratio 0.7–0.8), with sides nearly straight, hind angles divergent (Fig. 17), margin thin, faintly sulcate (especially posteriorly); fulvus with faint viridis sheen; glabrous, nitidus with fine punctation throughout. Scutellum fulvus, parallel-sided, anterior and posterior margins convex. Prosternum nearly straight in profile; fulvus to testaceous; glabrous with fine punctures medially, with fine erect setae and deep punctation laterally. Hypomeron fulvus to viridis; glabrous, nitidus with punctures becoming obsolete posteriorly. Mesosternum fulvus to testaceous, fossa glabrous and impunctate, lateral areas with dense setae and fine punctures. Mesepisternum fulvus to testaceous. Metasternum fulvus to testaceous; glabrous with very fine punctation medially, decumbent setae and denser setae anterolaterally. Femora fulvus to testaceous.

Elytron 10 mm (length/width ratio 3.0–3.1) subparallel on anterior half then narrowing to tip; fulvus to viridis; glabrous, nitidus, striae well marked medially, fainter laterally, strial punctures moderately deep; apex with apical spine and subapical tooth.

Abdomen aurantiacus to testaceous; glabrous with very fine punctation medially, decumbent setae and denser setae anterolaterally; female not seen. Male with parameres narrow medially, arcuate in profile, apical blades narrower than parameres at base, 21–23% length of parameres (Fig. 5).

Material examined.—COLOMBIA: (1, BMNH); nr. Saludito Valle, 6500 ft., 20-VII-1970, H. & A. Howden (1, CNC1).

Diagnosis.—The small size and immaculate pale fulvus to viridis dorsal coloration separate *S. virens* from all other *Semiotinus*.

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